GS.651

Position Evaluation System

POSITION CLASSIFICATION STANDARD FOR
[illegible] PUBLIC HEALTH

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DEPOSITORY ITEM

Respiratory Therapist Series GS-651

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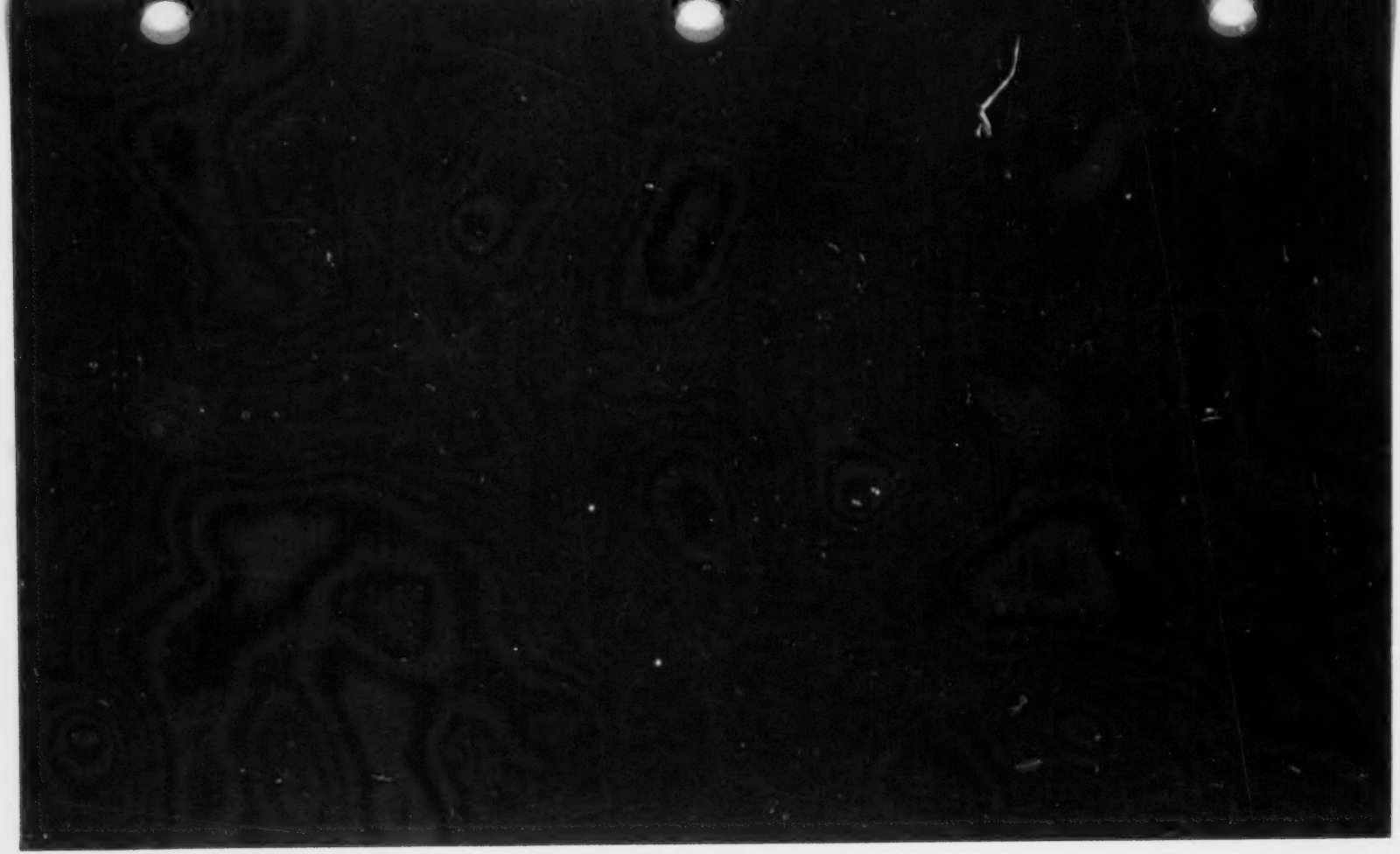

RESPIRATORY THERAPIST SERIES

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RESPIRATORY THERAPIST SERIES

This series includes positions which involve the supervision or performance of technical work concerned with administering therapeutic and diagnostic respiratory care and life support to patients with cardiopulmonary deficiencies and abnormalities. The work involves: operating and monitoring respiratory equipment such as continuous and intermittent ventilators, medical gas delivery apparatus, incentive breathing/hyperinflation devices, environmental control systems, and aerosol devices; administering medical gases, humidification, aerosols, and respiratory medications; maintaining clearnace of patient's natural and artificial airways; obtaining blood samples and interpreting blood gas data; and providing primary assistance in cardiopulmonary resuscitation. Positions in this series require a knowledge of the operating characteristics and daily maintenance of respiratory equipment and devices and a practical knowledge of human anatomy, physiology, chemistry, physics, and mathematics.

NOTE: This standard supersedes previously published classification guidance for Inhalation Therapy Technician positions, GS-4 and above, within the classification standard for the Medical Machine Technician Series, GS-649, issued in March 1973. Aid positions, GS-1 through GS-3, involving duties that are preparatory or auxiliary to respiratory therapy work should be classified in the GS-649 series and titled "Medical Machine Aid." The classification criteria contained in the GS-649 standard should be used for grade level determination.

EXCLUSIONS

Excluded from this series are the following kinds of positions:

1. Positions concerned primarily with operating and monitoring medical machines used in pulmonary function testing, controlling the pressure in a hyperbaric-oxygen chamber, or pumping and oxygenating the blood, are classified to the Medical Machine Technician Series, GS-649.
2. Positions that primarily involve technical support work in a clinical laboratory (performing diagnostic laboratory tests of

human blood, urine, and other body fluids, using manual or automated techniques) are classified in the Medical Technician Series, GS-645.

3. Positions that require the application of professional skills and knowledges in nursing, medicine, medical technology, or physiology are classified in the appropriate professional series.

4. Positions concerned primarily with the installation, maintenance, overhaul, repair, and testing of various medical equipment and instruments are covered by the Job Grading Standard for Medical Equipment Repairer, 4805.

AUTHORIZED TITLES

Respiratory Therapist is the basic title for all positions in this series.

Supervisory Respiratory Therapist is the appropriate title for positions that meet the definition and criteria for supervisory positions contained in Part I of the Supervisory Grade-Evaluation Guide.

Lead Respiratory Therapist is the appropriate title for positions that meet the definition and criteria for a work leader as defined in the Work Leader Grade-Evaluation Guide.

OCCUPATIONAL INFORMATION

Respiratory therapy is an allied medical speciality concerned with the treatment of patients who have deficiencies and abnormalities in respiratory function.

Respiratory therapists perform diagnostic and therapeutic procedures in hospital nursing units, emergency rooms and intensive care units, under the direction of physicians.

Diagnostic procedures performed by respiratory therapists in the Federal service typically include:

— Taking and analyzing blood gas samples to determine the level of oxygen, carbon dioxide, and acid-base balance of the blood;

- Observing and examining patients for abnormalities in pulse, breath sounds, inspiratory and expiratory effort, and other signs which may indicate difficulty in breathing;
- Performing various tests and procedures such as spirometry, deadspace and tidal volume ratio, lung compliance, and maximal respiratory pressures, to measure and calculate respiratory function;
- Assisting physicians in performing bronchoscopies by preparing patients through instruction and initial therapeutic treatment, mixing medications, providing materials to the physician as needed, and collecting tissue samples on cue.

Therapeutic procedures typically include:

- Performing medical gas therapy such as administering oxygen;
- Administering humidity and aerosol treatments;
- Administering prescribed respiratory drugs, such as bronchodilators;
- Performing bronchial hygiene therapy such as clapping, vibrating, postural drainage, breathing exercises, and incentive spirometry;
- Providing ventilator care and life support to intensive care patients including operating and monitoring mechanical ventilators, applying special ventilator techniques such as continuous positive airway pressure, and gradually decreasing patients' dependence on ventilators;
- Performing airway care and maintenance such as cleaning and changing endotracheal and tracheostomy tubes, and tracheobronchial suctioning;
- Performing cardiopulmonary resuscitation to include provision of manual ventilation and insertion of artificial airways if necessary.

In addition to performing some or all of the procedures listed above, most respiratory therapist assignments include some responsibility for instructing other therapists, physicians, nurses, and

others in the use of respiratory equipment and techniques. Such instruction is typically provided at the worksite but may involve formal classroom instruction as well. As an inherent part of their work, therapists clean, sterilize, calibrate, and make minor repairs to the equipment; but are not responsible for troubleshooting electronic components, electrical circuits and other major repairs to the equipment. They also are responsible for recording treatment and medical information pertinent to patient care.

Although the organization and management of respiratory care services vary somewhat from one hospital to another, the work assigned to respiratory therapists typically presents an identifiable pattern. Respiratory therapists, at the lower grade levels, are generally responsible for administering gases, humidity and aerosol therapy, delivering intermittent positive pressure breathing treatment, instructing patients in breathing exercises, and cleaning and generally maintaining equipment. At the higher grade levels, therapists are usually given responsibility for administering mechanical ventilation to acutely ill patients using controlled ventilation techniques and monitoring devices, making adjustments in ventilator care based on analysis of patients' blood gases, inserting artificial airways in emergency situations, and making recommendations to physicians based on observation and clinical assessment of patients' respiratory function. The assignment of the more complex procedures to a respiratory therapist is frequently dependent upon the hospital policies governing the scope of respiratory therapy services, the kind and level of training attained by the therapist, and the physicians' confidence in the respiratory therapist's ability and skill in performing the work.

Respiratory therapists perform their work using a variety of respiratory equipment. Some of the most commonly used equipment includes:

arterial blood gas analyzer - a machine which measures the various gas parameters and acid-base status of arterial blood.

spirometer - a device for measuring lung volume over time.

flowmeter - a device which controls and indicates flow in liters per minute.

regulator - a device incorporating a pressure reducing valve(s) with a flowmeter.

oxygen blender - a precision metering device which maintains stable inlet pressures so that a consistent oxygen percentage can be delivered.

oxygen analyzer - a device capable of measuring the oxygen percentage or fraction of inspired oxygen being delivered.

humidifier - a device which adds molecular water to a gas.

nebulizer - a device which generates an aerosol (water particles suspended in a gas) to supply moisture to the respiratory tract.

ultrasonic nebulizer - a nebulizer which uses an electric current and sound waves to break up water particles to a very minute size (1 to 10 microns).

incentive spirometer - a device designed to encourage the patient to make a sustained maximal inspiratory effort.

resuscitation bag - a device incorporating a self-inflating bag and a non-rebreathing valve designed to manually provide gas under positive pressure to the patients' airways.

intermittent positive pressure breathing - an apparatus which delivers a volume of gas determined by a preset pressure.

volume ventilator - a machine capable of controlling or assisting patient ventilation by delivering a consistent, preset volume of gas.

Recent technological advances in equipment have increased the therapist's capability and accuracy in delivering respiratory care. Equipment such as ventilators have become more sophisticated and vary somewhat with each manufacturer. At lower grade levels, respiratory therapists must know the technical aspects of the equipment well enough to deliver the prescribed treatment. At the higher grade levels, therapists must understand the technical aspects of the equipment being used as well as the physiological reactions of the patient once treatment has begun. They decide how best to adapt the equipment to the patient based on information gained through trained observation and laboratory results.

All respiratory therapists apply a practical knowledge of the basic medical sciences such as anatomy, physiology, chemistry, and physics, as they pertain to the respiratory and circulatory systems of the human body. Fifteen years ago, these knowledges were gained almost solely through on-the-job training programs. However, in recent years there have been an increased number of one-year, two-year, and four-year educational programs. The two-year and four-year programs are normally found at the community college and university levels while the one-year programs are typically based in hospitals or technical/vocational schools.

GRADING OF POSITIONS

This standard provides grade evaluation criteria for nonsupervisory respiratory therapist positions only. These positions should be evaluated on a factor by factor basis, using one or more Office of Personnel Management benchmarks and/or factor level descriptions for the Respiratory Therapist Series. The Primary Standard may be used to evaluate factor levels of positions that exceed those described in this standard. Only designated point values may be used. It should be noted that the absence of benchmarks for positions at any particular grade level does not preclude evaluation of positions at that grade. Additional instructions for evaluating positions are contained in "Instructions for the Factor Evaluation System" (Section VII; General Introduction, Background, and Instructions; Position-Classification Standards).

This standard does not provide grade evaluation criteria for all types of respiratory therapist positions. The following are some of the standards to be used in place of or to supplement this standard:

1. The Supervisory Grade-Evaluation Guide, Part I, is to be used to evaluate supervisory positions.
2. The Work Leader Grade-Evaluation Guide is to be used to evaluate work leader positions.
3. The Grade-Evaluation Guides for Instructor and Instructional Specialist is to be used to evaluate positions concerned primarily with providing training instruction to respiratory therapists.

GRADE CONVERSION TABLE

Total points on all evaluation factors are converted to GS-grades as follows:

Point Range	*Grade*
655 - 850	GS-4
855 - 1100	GS-5
1105 - 1350	GS-6
1355 - 1600	GS-7
1605 - 1850	GS-8

FACTOR LEVEL DESCRIPTIONS

FACTOR 1, KNOWLEDGE REQUIRED BY THE POSITION

This factor measures the nature and extent of information or facts which respiratory therapists must understand to do acceptable work (e.g., steps, procedures, practices, rules, policies, principles, and concepts) and the nature and extent of the skills needed to apply those knowledges. To be used as a basis for selecting a level under this factor, a knowledge must be required and applied.

Level 1-4—550 points

A practical knowledge of the standard principles, procedures, and techniques of respiratory therapy; and the functioning characteristics of commonly used respiratory equipment and accessory devices sufficient to set up, operate, sterilize, and calibrate basic equipment.

Knowledge of anatomy and physiology including the basic location and functions of the major organs and structures of various systems of the human body as they relate to respiration; knowledge of chemistry and physics including a basic understanding of the various principles of gas laws, humidity, aerosols, pressure and temperature, the concepts of buffers and hydrolysis, and an understanding of the properties of salts, acids and bases; knowledge of standard respiratory drugs (e.g., bronchodilators) including drug action and effects, recommended dosages, and the requirements for administering and storing the drugs; and knowledge of common human diseases such as bronchitis, asthma, and emphysema and their effects on the respiratory system.

The respiratory therapist uses these knowledges to provide general bedside respiratory care including duties such as: administering oxygen and therapeutic gas mixtures using nasal cannulas, masks, or other appropriate appliances; administering various medications (e.g., a bronchodilator) in aerosol form using equipment such as intermittent positive pressure breathing (IPPB) and hand-held nebulizers; administering nebulized solutions using ultrasonic nebulizers and accessory equipment; performing humidity therapy; collecting sputum samples for medical examination; administering chest physical therapy using techniques such as clapping, vibrating, and postural drainage; drawing blood samples and performing blood gas analyses; instructing patients in breathing exercises using techniques such as

purse-lip breathing; performing mathematical calculations to determine machine function and manually compute blood gas data; and providing oxygen and life support equipment during emergency resuscitations.

OR

Equivalent knowledges and skills.

Level 1-5—750 points

In addition to the knowledge described at Level 1-4, knowledge of the complex principles, procedures, and techniques of respiratory therapy; knowledge of a wide variety of respiratory equipment including the operating characteristics, capabilities and limitations of complex equipment such as volume ventilators; knowledge of anatomy and physiology including an indepth understanding of the structure and function of the lungs and bronchi as related to gas exchange and ventilation; knowledge of a variety of acute and chronic respiratory disorders including the appropriate methods of treatment; and knowledge of respiratory pharmacology (e.g., bronchodilators, mucolytics, detergents and wetting agents) including the classification of the drugs, drug interaction, patient responses, common dosages, and methods of administration. The respiratory therapist uses these knowledges to provide emergency and intensive respiratory care including duties such as: administering assisted and controlled ventilation and making adjustments in ventilator parameters; setting up, administering, and monitoring special ventilator techniques such as positive end expiratory pressure (PEEP) and continuous positive airway pressure (CPAP); weaning patients from ventilators; assessing the respiratory status of patients using patient observation, pulse, respirations, breath sounds, analysis of blood gas data, etc., to determine the effectiveness of the treatment being delivered and to make recommendations to physicians regarding possible changes in treatment; performing various procedures to control and maintain artificial airways including endotracheal intubation and extubation, tracheal lavage, and tracheostomy care; inserting and maintaining the placement of an arterial catheter; and performing specific diagnostic studies such as monitoring oxygen consumption/carbon dioxide production, artery and capillary wedge pressures, and cardiac output.

OR

Equivalent knowledges and skills

FACTOR 2, SUPERVISORY CONTROLS

This factor covers the nature and extent of direct or indirect controls exercised by the supervisor, the respiratory therapist's responsibility, and the review of completed work. Controls are exercised by the supervisor in the way assignments are made, instructions are given to the respiratory therapist, priorities and deadlines are set, and objectives and boundaries are defined. Responsibility of the respiratory therapist depends upon the extent to which the therapist is expected to develop the sequence and timing of various aspects of the work, to modify or recommend modification of instructions, and to participate in establishing priorities and defining objectives. The degree of review of work depends upon the nature and extent of the review, e.g., close and detailed review of each phase of the assignment; spot check of finished work for accuracy, or review only for adherence to policy.

NOTE: Technical guidance may be furnished by others in the hospital such as a higher grade therapist or a physician.

Level 2-1—25 points

The supervisor makes assignments with specific and detailed instruction on the procedures to be performed.

The therapist works as instructed and consults with the supervisor on problems not specifically covered by instruction.

Assignments are controlled to limit the complexity and variety of respiratory therapy procedures to be performed. The supervisor reviews the work in progress and upon completion for accuracy, adequacy, and adherence to instructions and established procedures.

Level 2-2—125 points

The supervisor makes continuing and individual assignments by indicating generally what is to be done, problems to be anticipated, quality and quantity of work expected, and the priority of assignments. The supervisor provides additional, specific instructions on techniques and procedures for carrying out new, difficult, or unusual assignments.

At this level the therapist is expected to know the equipment and methods to be used and how to adapt them to recurring assignments. The therapist refers problems or unfamiliar situations not covered by instructions to the supervisor or higher grade therapist for decision or help.

The supervisor evaluates work on a spot-check basis to assure that finished work and methods used are technically accurate and in compliance with instructions or established procedures and techniques.

Level 2-3—275 points

At this level the supervisor places considerable reliance on the therapist's knowledge of complex respiratory therapy procedures. Instructions are limited to matters relating to what is to be accomplished and what conditions can be anticipated. The supervisor is available for unusual situations which do not have clear precedents.

The therapist selects and adapts the procedures and techniques to be used in accordance with previous training or accepted practices. At this level the therapist actively participates with physicians and nurses in planning respiratory treatment procedures. The medical personnel rely greatly upon the therapist's knowledge of the capabilities and limitations of the respiratory equipment. The therapist independently makes recommendations regarding treatment or modifications to treatment frequently in critical care and emergency situations. The therapist rarely consults the supervisor for technical assistance or advice.

The supervisor reviews the completed work for the results achieved and for conformance to the respiratory therapy department's policies and requirements. For example, the supervisor may review the work for conformance to policy through retrospective audits of medical records and other clinical documentation.

FACTOR 3, GUIDELINES

This factor covers the nature of guidelines and the judgment needed to apply them. Guides used in respiratory therapy include, for example: respiratory therapy manuals and operating procedures, written and verbal medical orders, standard textbooks, agency procedures and policies, and journals and literature in the field of respiratory therapy.

Individual jobs in different occupations vary in specificity, applicability, and availability of the guidelines for performance of assignments. Consequently, the constraints and judgmental demands placed upon respiratory therapists also vary. For example, the existence of specific instructions, procedures, and policies may limit the opportunity of the therapist to make or recommend decisions or actions. However, in the absence of procedures or under broadly stated objectives, respiratory therapists may use considerable judgment in developing new methods. This factor is not to be confused with the knowledges described under Factor 1. Guidelines tell the respiratory therapist how to use the knowledges.

Level 3-1—25 points

Guidelines typically consist of well-established operating procedures and manuals which specify the methods and materials needed to carry out respiratory therapy procedures and the features of equipment setup, operation, and maintenance. The guidelines are specific, detailed, and cover all important aspects of the assigned work.

The respiratory therapist works in strict adherence to the guidelines unless instructed to do otherwise by the supervisor or designated authority.

Level 3-2—125 points

Guidelines include written descriptions of standard respiratory therapy procedures; written and oral instructions from physicians regarding prescribed treatment; equipment manuals containing instructions for the general use, assembly, disassembly, minor maintenance, and calibration of medical equipment and devices; and explicit instructions pertaining to the routine procedural and administrative aspects of the assignments, e.g., sterilizing and testing equipment, transporting patients and equipment, documenting patient's record of treatment, ordering and storing respiratory equipment and supplies.

The number and similarity of guidelines and work situations require the respiratory therapist to use judgment in identifying and selecting the most appropriate guideline, reference and procedure for application to specific cases. For example, therapists exercise judgment in selecting, from among various types of chest physiotherapy, the therapy that may be most effective for a patient's condition and consistent with the physician's orders. Therapists also exercise judg-

ment typically during the selection of the type of equipment, e.g., type of oxygen delivery device, humidifier, nebulizer or spirometer to be used. At this level, the therapist may on occasion make minor deviations to adapt guidelines to specific cases, e.g., changing to another type of equipment or device, adjusting the normal settings or controls on a piece of equipment, or changing the position of a patient, in order to make treatment more effective. However, when situations occur to which the existing guidelines do not apply, where significant deviations from previous experience with the work is required, or where the application of precedent is unclear, the therapist typically asks the supervisor for advice and assistance. Most respiratory therapist positions are at this level.

Level 3-3—275 points

In addition to guidelines used in level 3-2, the therapist must frequently make a search of available respiratory therapy textbooks, journals, and current literature in the field for application to individual cases or problems. Typically, the cases are such that usual forms of therapy and equipment are not effective for stabilizing or improving the patient's respiratory condition; and alternative approaches to treatment are necessary.

The respiratory therapist uses judgment to modify standard procedures, adopt precedent situations, or develop new procedures or techniques, to apply to the individual cases or problems. The therapist uses initiative to learn of new developments in the field and to recommend changes in established procedures. Frequently, the procedures and techniques adapted or developed by the respiratory therapist form the basis for hospital standardization.

FACTOR 4, COMPLEXITY

This factor covers the nature, number, variety, and intricacy of tasks, steps, processes, or methods in the work performed; the difficulty in identifying what needs to be done; and the difficulty and originality involved in performing this work.

Level 4-1—25 points

The work consists of specific, well-defined tasks (such as setting up and changing oxygen masks and nasal cannulas, calibrating oxygen

analyzers and regulators, disassembling and cleaning reusable respiratory equipment) which are directly related to the performance of routine respiratory therapy treatment.

There is little or no choice to be made in deciding what needs to be done. Standard operating procedures and instructions from the supervisor and/or physician's orders are directly applied.

The tasks are performed repetitively with few possible kinds of variations and with little likelihood of complications.

Level 4-2—75 points

The work involves the application of standardized and often related procedures to perform a variety of respiratory therapy treatments of limited difficulty, e.g, oxygen therapy, humidity and aerosol therapy, intermittent positive pressure breathing, incentive spirometry, and chest physiotherapy.

Decisions regarding what needs to be done involve various choices requiring the therapist to decide the order of priority for administering treatments, choose the most appropriate equipment and techniques for the type of treatment requested, and determine the proper sequence of steps to complete the treatment. The therapist must consider factors (e.g., patient's position, pulse, breath sounds, respiratory rate) that are apparent, comparable, and readily verifiable, in order to adjust treatment procedures, techniques and equipment to the patient's medical condition. The therapist must also recognize adverse reactions to treatment that may indicate the need to terminate procedures.

At this level, the actions taken by the respiratory therapist differ according to the factual nature of the situation, e.g., minor variations in the medical condition of individual patients, differences in the type of treatment ordered by physicians, and slight differences in the physical responses of patients to the treatment.

Level 4-3—150 points

The work includes a variety of duties involving different procedures and methods to perform complex respiratory treatment, e.g., setting up, maintaining, and/or calibrating equipment such as ventilators and mass spectrometers; applying various techniques to decrease patients' dependence on ventilators; inserting artificial air-

ways into patient's trachea, independently adjusting the ventilator parameters to bring about a change in the patient's respiratory status; and using a ventilator or other special devices to increase the normal pressure in a patient's airway.

Decisions regarding what needs to be done are based on a recurring need for the therapist to carefully assess various aspects affecting the individual's respiratory status and overall medical condition. Typically, there are many possible variations in specific techniques, machine adjustments, or other factors that must be matched to variations in the patient's condition. For example, the therapist may change a ventilator setting based on the recognition and evaluation of the sudden onset of significant physical signs or symptoms.

The method of respiratory care, including the types of equipment, techniques, and procedures used, differs with each patient. At this level, the therapist must identify and analyze factors related to equipment operation and patient responses to discern their interelationship. Situations characteristic at this level (e.g., respiratory distress, cardiac arrest) require precision in timing and coordinating action with others while making very quick and accurate observations or adjustments in response to physician's orders or changes in the patient's condition.

FACTOR 5, SCOPE AND EFFECT

Scope and effect covers the relationship between the nature of the work, i.e., the purpose, breadth, and depth of the assignment, and the effect of work products or services both within and outside the organization. Effect measures such things as whether the work output facilitates the work of others, provides timely services of a personal nature, or impacts on the adequacy of research or clinical conclusions. The concept of effect alone does not provide sufficient information to properly understand and evaluate the impact of the position. The scope of the work completes the picture, allowing consistent evaluations. Only the effect of properly performed work is to be considered.

Level 5-1—25 points

The work involves the performance of specific, routine duties that include a few separate procedures such as disassembling, cleaning,

and sterilizing respiratory therapy equipment; calibrating simple pieces of equipment (e.g., oxygen analyzers and regulators); setting up, changing or checking basic respiratory equipment (e.g., cannulas, humidifier masks, flowmeters, and hand ventilators).

The work product facilitates the work of other therapists in providing respiratory care.

Level 5-2—75 points

The work involves the performance of a variety of established respiratory procedures and techniques which comprise a significant segment of the overall respiratory services provided to patients (e.g., administering medical gases, humidification and aerosol therapy; performing intermittent positive pressure breathing; monitoring ventilators and environmental control systems; instructing patients in how to perform breathing exercises and/or performing bronchial drainage procedures).

The work results have a significant effect on the further treatment provided by physicians and nurses.

Level 5-3—150 points

At this level the work involves performing a variety of nonroutine or specialized respiratory therapy procedures according to established policies and practices (e.g., making independent ventilator adjustments, placing artificial airways into patient's trachea, inserting arterial catheters, assessing patient's overall cardiopulmonary condition in relationship to the type of respiratory treatment being given and making therapeutic recommendations to physicians). Positions at this level are designed primarily to provide respiratory services during regular and recurring emergency or critical care situations.

Highly developed skill in performing this work has a significant impact on the well-being of patients.

FACTOR 6, PERSONAL CONTACTS

This factor includes face to face and telephone contacts with persons not in the supervisory chain. (NOTE: Personal contacts with supervisors are covered under Factor 2, Supervisory Controls.) Levels described under this factor are based on what is required to make the

initial contact, the difficulty of communicating with those contacted, and the setting in which the contact takes place (e.g., the degree to which the employee and those contacted recognize their relative roles and authorities).

Above the lowest level, points should be credited under this factor only for contacts which are essential for successful performance of the work and which have a demonstrable impact on the difficulty and responsibility of the work performed.

The relationship of Factors 6 and 7 presumes that the same contacts will be evaluated for both factors. Therefore, use the personal contacts which serve as the basis for the level selected for Factor 7 as the basis for selecting a level for Factor 6.

Level 6-1—10 points

Personal contacts are with employees within the respiratory therapy service and with patients in very highly structured situations, i.e., in the presence of a higher grade respiratory therapist.

Level 6-2—25 points

Personal contacts are with employees within the hospital but outside of the respiratory therapy service. Those contacted generally are engaged in different functions, missions, and kinds of work. The contacts are generally established on a routine basis, but the therapist's identity and purpose may be unclear at first to the person contacted. Typical of contacts at this level are those with patients, their families, physicians, nurses, administrative personnel, professional and technical employees in other departments or services of the hospital, and/or with students and faculty from affiliated colleges and universities.

FACTOR 7, PURPOSE OF CONTACTS

The purpose of personal contacts ranges from factual exchanges of information to situations involving differing viewpoints, goals, or objectives. The personal contacts which serve as the basis for the level selected for this factor must be the same as the contacts which are the basis for the level selected for Factor 6.

Level 7-1—20 points

The purpose of the personal contacts is to obtain, clarify, or give factual information concerning the work, such as contacts to obtain or clarify information about requested treatment, to relay results of tests (e.g., blood gas data) and therapeutic treatments, or to explain treatment procedures to patients.

Level 7-2—50 points

The purpose of the personal contacts is to plan, coordinate, or advise on work efforts or to resolve operating problems by influencing or motivating individuals or groups who are working toward mutual goals and who have basically cooperative attitudes, e.g., contacts with physicians and nurses to recommend type of therapy or to suggest changes in current therapy, to coordinate or improve on work efforts with other respiratory therapists, to demonstrate to patients and family members how to use and care for respiratory equipment, to gain needed cooperation from patients during respiratory therapy procedures, or to plan and coordinate training assignments with respiratory therapy students and faculty.

FACTOR 8, PHYSICAL DEMANDS

This factor covers the requirements and physical demands placed on the respiratory therapist by the work assignment. This includes physical characteristics and abilities (e.g., specific agility and dexterity requirements) and the physical exertion involved in the work (e.g., climbing, lifting, pushing, stooping, kneeling, crouching, crawling, or reaching). To some extent the frequency or intensity of physical exertion must also be considered, e.g., a job requiring prolonged standing involves more physical exertion than a job requiring intermittent standing. (NOTE: Regulations governing pay for irregular or intermittent duty involving unusual physical hardship or hazard are in Chapter 550, Federal Personnel Manual.)

Level 8-1—5 points

The work involves some sitting, walking, bending, and standing for short periods of time, or carrying light respiratory therapy instruments and supplies, but no special physical requirements are necessary to perform the work.

Level 8-2—20 points

The work requires regular and recurring physical exertion such as standing or walking for prolonged periods of time; frequent bending, reaching, stooping, and stretching to set up and take apart respiratory equipment and apparatus; lifting and repositioning patients; and pushing or pulling heavy objects such as oxygen tanks and/or ventilator equipment. The work may require specific physical characteristics and abilities such as above-average dexterity to perform intricate respiratory therapy procedures.

FACTOR 9, WORK ENVIRONMENT

This factor considers the risks and discomforts in the respiratory therapist's physical surroundings or the nature of the work assigned and the safety regulations required. Although the use of safety precautions can practically eliminate a danger or discomfort, such situations typically place additional demands upon the therapist in carrying out safety regulations and techniques. (NOTE: Regulations governing pay for irregular or intermittent duty involving unusual physical hardship or hazard are in Chapter 550, Federal Personnel Manual.)

Level 9-1—5 points

The work involves everyday risks or discomforts which require normal safety precautions typical of such places as offices, training and conference rooms, or supply rooms, e.g., use of safe work practices with medical equipment and instrument avoidance of trips, falls, and bumping into equipment, and observance of fire regulations. The work area is adequately lighted, heated, and ventilated. There may be occasional exposure to moderate risks and discomforts such as flammable gases and odors.

Level 9-2—20 points

The work involves regular and recurring exposure to moderate risks and discomforts which require special safety and health precautions, e.g., working regularly with patients and in situations where

there is risk of exposure to contagious diseases, odors, and/or flammable gases. The respiratory therapist is required to wear protective clothing such as gloves and a mask to prevent disease and the spread of infection.

OPM Benchmark Description

Series	Grade	BMK #
GS-651	04	01

RESPIRATORY THERAPIST GS-4

Duties

Performs routine respiratory therapy treatment specifically designed to provide the therapist with experience and skill in using various types of standard respiratory equipment and applying well-established procedures and techniques.

— Administers oxygen therapy to patients as prescribed, using various types of oxygen delivery devices such as nasal cannulas, masks, catheters, and face tents.

— Administers to patients various medications in aerosol form using equipment such as intermittent positive pressure breathing (IPPB) and hand-held nebulizers. Positions patients and explains treatment procedure; sets up, operates, and monitors equipment, observing the patient's reaction to treatment; and calls supervisor's attention to unusual reaction or abnormalities in vital signs.

— Instructs patients in the proper use of the incentive spirometer to improve the distribution of ventilation by effective deep breathing and coughing. Instructs patients in how to perform breathing exercises such as purse-lip breathing and diaphragmatic breathing to improve their ability to breathe during periods of breathing difficulty or stress.

— Cleans, checks operation, changes and calibrates basic respiratory equipment such as oxygen analyzers and regulators according to hospital policy. Sterilizes, assembles, and packages reusable equipment used by the respiratory therapy service.

— Records treatment administered to patients including type of therapy, equipment, and supplies used, and noting patient responses and/or progress.

Factor 1, Knowledge Required by the Position—Level 1-4—550 Points

Knowledge of standard respiratory therapy procedures and techniques including the functioning characteristics of commonly used

Series	Grade	BMK #
GS-651	04	01

respiratory equipment in order to administer oxygen and therapeutic gas mixtures; perform incentive spirometry; instruct patients in how to perform breathing exercises; and clean, operate, change, and calibrate equipment such as oxygen analyzers and regulators.

Practical knowledge of anatomy and physiology covering the basic location and function of the major organs and structures of the respiratory, cardiovascular, muscular, and skeletal systems of the human body as they relate to respiration, in order to comply with treatment requests, explain procedures to patients, observe patient responses to treatment, and instruct patients in how to perform breathing exercises.

Knowledge of basic chemistry, physics, and mathematics such as the principles of gas laws, concepts of temperature and pressure, and the properties of acids and bases, in order to operate and adjust standard respiratory equipment, determine adequate machine function, and prepare and administer therapeutic gases and medications.

Knowledge of standard respiratory drugs such as frequently used-bronchodilators and anesthetics including the drug action and effects, recommended dosages, and the requirements for administering and storing the drugs, in order to administer prescribed medications and observe patient's reaction to treatment.

Factor 2, Supervisory Controls—Level 2-1—25 Points

The supervisor provides specific instructions on what is to be done. Additionally, the employee works closely with higher grade respiratory therapists who provide technical advice and guidance.

The respiratory therapist performs assigned work following well-established procedures and specific instructions. The employee refers all matters not covered by the instructions to the supervisor or higher grade therapist.

The work is frequently reviewed in progress and on completion for accuracy with established procedures and techniques and for compliance with instructions.

Series	Grade	BMK #
GS-651	04	01

Factor 3, Guidelines—Level 3-1—25 Points

Standard operating procedures cover all work assignments and specify the materials and sequence of steps needed to carry out respiratory therapy procedures. Manuals are also available which describe features of equipment setup, operation, and maintenance. The therapist works in strict adherence to the guidelines unless instructed to do otherwise by the supervisor, physician, or designated authority.

Factor 4, Complexity—Level 4-1—25 Points

The work consists of specific procedures and techniques performed repetitively. The technical procedures and techniques are covered by instructions so that there is little choice in deciding what needs to be done. Patients are assigned that present little or no likelihood of complications and are able to cooperate with the therapist's directions. The therapist directly applies the supervisor's instructions and the medical orders given by physicians.

Factor 5, Scope and Effect—Level 5-1—25 Points

The purpose of the work is to provide experience for a variety of additional and more complex respiratory therapy duties requiring the use of standard equipment and procedures. The treatments given have a limited effect outside of the respiratory therapy service. The work results facilitate the work of other therapists by relieving them of the more routine and repetitive assignments.

Factor 6, Personal Contacts—Level 6-1—25 Points

Personal contacts are with other employees in the respiratory therapy service and with physicians and patients in treatment situations that are highly structured and easily controllable.

Factor 7, Purpose of Contacts—Level 7-1—20 Points

Contacts with other members of the respiratory therapy service are for the purposes of receiving instructions, exchanging factual information about the work, and obtaining necessary equipment and materials. Contacts with patients are for the purpose of explaining routine treatment procedures and easily understood instructions. Information concerning the results of simple tests and treatment is relayed to the physician.

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Factor 8, Physical Demands—Level 8-2—20 Points

The work requires recurring bending, stooping, and reaching to set up and take apart respiratory apparatus. Moderate exertion such as pulling, pushing, and lifting is also required to reposition patients and transport equipment.

Factor 9, Work Environment—Level 9-2—20 Points

On a regular and recurring basis, the respiratory therapist works with patients and in situations where there is exposure to contagious diseases, unpleasant odors, and flammable gases. The therapist is required to wear gloves while sterilizing and cleaning contaminated respiratory equipment to guard against diseases and infections and to avoid contact with cleaning agents that can cause skin irritations. The therapist frequently encounters unpleasant smells while handling equipment containing oral secretions and mucus. Additionally, the therapist wears a mask and gloves while administering treatment to patients having staph infections, a history of hepatitis, pneumonia, tuberculosis, and other lung diseases which present a risk to the therapist's health.

TOTAL POINTS — 720

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GS-651	05	01

RESPIRATORY THERAPIST, GS-5

Duties

Serves as a respiratory therapist responsible for independently administering a variety of prescribed respiratory therapy treatments to ambulatory and nonambulatory patients.

- Administers oxygen and aerosols containing prescribed medication to patients using standard respiratory equipment such as cannulas, masks, Trach T adapters, face tents, humidifiers, nebulizing devices, and intermittent positive pressure breathing apparatus.
- Performs chest physical therapy using techniques such as clapping, vibrating, and postural drainage to facilitate the removal of secretions. Operates sterile suction catheter attached to a vacuum to remove secretions from patient's airway.
- Collects sputum specimens for medical examination using aerosol administration and tracheal suctioning.
- Instructs patients in the proper use of the incentive spirometer to improve the distribution of ventilation by effective deep breathing and coughing. Instructs patients in how to perform breathing exercises such as purse-lip breathing and diaphragmatic breathing to improve their ability to breathe during periods of breathing difficulty or stress.
- Draws arterial blood samples from patients using needle and syringe. Operates blood gas analyzer to determine the level of oxygen, carbon dioxide, and acid-base balance of the blood. Manually calculates various blood values such as oxygen saturation and content using standard graphs and formulas.
- During cardiac arrests, initiates artificial ventilation using either mouth-to-mouth techniques or manual ventilation bag to restore patient's heartbeat and maintain ventilations.
- Assists the physician during bronchoscopies by anesthetizing the patient's airways, assisting in the intubation, handing instruments to the physician during the procedure and observing the patient for adverse reactions.

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— Cleans, sets up, and checks the operation of basic respiratory equipment such as flowmeters, humidifiers, hand ventilators, entrainment masks, oxygen tank and regulators. Corrects minor machine malfunctions and apparent problems such as oxygen leaks and accumulation of water in gas lines.

— Calibrates equipment such as oxygen analyzers, regulators, and blood gas analyzers.

— Records pertinent data associated with treatment such as type of therapy administered, equipment and medications used, patient progress, and general observation of vital signs.

Factor 1, Knowledge Required by the Position—Level 1-4—550 Points

Knowledge of standard respiratory therapy procedures and techniques including the functioning characteristics of commonly used respiratory equipment, in order to administer oxygen, aerosol, and intermittent positive pressure breathing treatments; perform chest physical therapy; instruct patients in how to perform breathing exercises; perform cardiopulmonary resuscitation; draw and analyze arterial blood samples; and clean, operate, change, repair, and calibrate equipment such as oxygen analyzers, regulators, and automatic arterial blood gas machines.

Practical knowledge of anatomy and physiology such as the location and function of the major organs and structures of the respiratory, cardiovascular, muscular, and skeletal systems of the human body, in order to evaluate and comply with treatment requests, understand and explain treatment procedures to patients, assess and record reactions to treatment, and draw arterial blood samples.

Knowledge of basic chemistry, physics, and mathematics such as the principles of gas laws, concepts of temperature and pressure, properties of acids and bases, and chemical formulas, in order to operate and adjust standard respiratory equipment, prepare and administer therapeutic gases and medications, calibrate equipment, and compute blood gas values.

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Knowledge of commonly used respiratory drugs including drug interactions, patient responses, recommended dosages and methods of administration, in order to read and interpret physician's orders, and accurately prepare and administer aerosolized drugs.

Knowledge of common respiratory diseases such as bronchitis, asthma, and emphysema including pathological responses such as fever, shock, and inflamation, in order to respond to emergency requests, assess patient's response to treatment, and set up and make adjustments to therapeutic equipment and techniques to meet the special conditions of the patient.

Knowledge of aseptic principles and techniques in order to properly use clean and contaminated equipment, protect self and others through proper hand care and use of face mask and gloves.

Factor 2, Supervisory Controls—Level 2-2—125 Points

The respiratory care supervisor makes shift assignments by initially indicating generally what is to be done, problems to be anticipated with certain patients, and quality and quantity of work to be completed. The supervisor provides additional specific instructions on new or revised policies, work procedures, and respiratory equipment and techniques.

The respiratory therapist carries out routine respiratory treatments and procedures independently, referring to the supervisor only those problems and unfamiliar situations not covered by instructions or guides. For example, the therapist determines the physician's orders, selects the equipment and materials needed, sets up and adapts standard equipment to the patient, and delivers treatment to comply with the physician's instructions.

The supervisor assures that finished work is technically accurate and in compliance with instructions or established procedures by performing spot checks and assessing comments received from physicians, nurses, and others with whom the respiratory therapist has contact.

Factor 3, Guidelines—Level 3-2—125 Points

Guidelines include various manuals that contain descriptions of respiratory therapy procedures and provide instructions for the

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general use, assembly, maintenance, and calibration of equipment. Guidelines also include hospital policies and procedures regarding sterilizing and testing equipment, transporting patients and equipment, and documenting patient's record of treatment.

The respiratory therapist uses judgment in identifying and selecting the most appropriate procedures, equipment and techniques for application to specific cases. Situations requiring significant deviations from the guidelines are referred to the supervisor.

Factor 4, Complexity—Level 4-2—75 Points

The work involves the performance of various respiratory therapy treatments of limited difficulty such as oxygen therapy, aerosol therapy, intermittent positive pressure breathing, and chest physical therapy. The treatments consist of sequential steps and often related procedures.

The respiratory therapist decides the order of priority for administering treatments, chooses the most appropriate equipment and techniques for the type of therapy requested, and determines the proper sequence of steps to complete the treatment. The therapist considers factors relating to the respiratory status of the patient such as pulse, breath sounds, and respiratory rate, in order to adapt the equipment and procedures to the patient's condition.

The work varies according to minor differences in the medical conditions of individual patients, differences in the type of treatment prescribed by the physicians, and slight variations in the responses of patients to the treatment.

Factor 5, Scope and Effect—Level 5-2—75 Points

The purpose of the work is to provide respiratory care to patients throughout various wards and clinics of the hospital using standard respiratory equipment and procedures.

The work contributes to the further treatment provided by the physicians and nurses.

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Factor 6, Personal Contacts—Level 6-2—25 Points

Personal contacts are with patients, other members of the respiratory therapy department, physicians, nurses, and other medical personnel throughout the hospital.

Factor 7, Purpose of Contacts—Level 7-1—20 Points

Contacts with patients are to explain treatment procedures, obtain correct positioning, and demonstrate breathing exercises and use of equipment. After initial treatment, patients are usually familiar with the purpose of the therapy and capable of cooperating with the therapist's instructions. Contacts with physicians and nurses are for exchanging information on blood gases and therapeutic procedures. The therapist coordinates the patient workload with other members of the respiratory therapy staff.

Factor 8, Physical Demands—Level 8-2—20 Points

The work requires long periods of standing and walking. There is frequent bending, reaching, and stooping to set up and take apart respiratory equipment. The therapist must often lift and reposition patients for treatment and transport moderately heavy objects such as oxygen tanks to the treatment site.

Factor 9, Work Environment—Level 9-2—20 Points

On a regular and recurring basis, the respiratory therapist is exposed to risks and discomforts which require special health precautions. The therapist routinely wears a mask and gloves while removing secretions from patients' airways and collecting sputum specimens for medical examination. Unpleasant odors are associated with collecting and disposing of oral secretions. Additionally, the therapist wears a mask and gloves while administering treatment to patients having staph infections, a history of hepatitis, pneumonia, and various other lung diseases which present a risk to the therapist's health.

TOTAL POINTS — 1035

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GS-651	06	01

OPM Benchmark Description

RESPIRATORY THERAPIST, GS-6

Duties

Administers a variety of complex respiratory therapy treatments to non-ambulatory patients in hospital wards and intensive care units.

- Sets up and monitors respiratory equipment such as volume and pressure ventilators, respiratory monitor, mass spectrometer, rebreather, and oxygen monitor. Based on physician's orders, makes adjustments in mechanical ventilator settings to maintain patient's respiratory stability. Applies advanced ventilator techniques such as positive end expiratory pressure (PEEP), intermitent mandatory ventilation (IMV), and continuous positive airway pressure (CPAP).
- Performs airway care on intensive care patients including tracheobronchial and nasotracheal suctioning, endotracheal and tracheostomy tube cuff pressure monitoring, chest physical therapy involving postural drainage and percussion, and chest examinations for the presence of secretions and proper placement of the endotracheal tube.
- Performs bedside diagnostic tests including measurement of respiratory compliance, inspiratory force, tidal volume, and dead space to tidal volume rations. Performs basic spirometry including forced vital capacity, forced expired volume, forced expiratory flow and peak flow.
- Assists physicians in placing artificial airways into patient's trachea by gathering materials and tools, positioning patients, and providing materials to physicians as required.
- During cardiac arrests, initiates artificial ventilation using either mouth-to-mouth techniques or a manual ventilation bag to restore patient's heartbeat and maintain ventilation. During transport of patients, maintains clearance of airway, monitors vital signs, and performs cardiopulmonary resuscitation when necessary.

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— Performs routine respiratory therapy treatment to hospital ward patients such as administering oxygen and therapeutic aerosols, intermittent positive pressure breathing and incentive spirometry. Monitors patients for adverse reactions, independently takes corrective action based on established policy and past experience, and notifies professional staff as required.

— Provides patient instruction for home care pulmonary rehabilitation.

— Draws arterial blood samples from patients using needle and syringe. Operates blood gas analyzer to determine the level of oxygen, carbon dioxide, and acid-based balance of the blood. Manually calculates various blood values such as oxygen saturation and content using standard graphs and formulas.

— Calibrates complex respiratory equipment such as ventilators, carbon dioxide analyzers, oximeters, and mass spectrometers to assure accurate performance.

— Records treatment, findings, and progress pertinent to patient care.

Factor 1, Knowledge Required by the Position—Level 1-5—750 Points

Knowledge of a wide variety of respiratory therapy procedures and techniques including the functioning characteristics of complex respiratory equipment, in order to apply pressure and volume ventilators to patients with tracheostomies and other complex medical problems; perform artificial airway care and maintenance; conduct diagnostic respiratory tests; respond to emergency situations involving respiratory failure; and calibrate equipment such as ventilators, carbon dioxide analyzers and mass spectrometers.

Knowledge of anatomy and physiology including an indepth understanding of the structure and function of the lungs and bronchi as related to gas exchange and ventilation, in order to administer special ventilatory techniques such as positive end expiratory pressure and intermittent mandatory ventilation; interpret the results of blood gas studies and evaluate the effectiveness of therapy;

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identify and correct displacement of endotracheal and tracheostomy tubes; and perform chest physiotherapy and examinations.

Knowledge of respiratory pharmacology including an understanding of the various classes of respiratory drugs and their uses, ability to prepare dosages and concentrations and select proper methods of administration, and skill in identifying complications and interactions of drugs, in order to determine the effectiveness of the therapy being delivered to patients and to make recommendations to physicians regarding possible changes or alternatives to treatment.

Factor 2, Supervisory Controls—Level 2-2—125 Points

The supervisor assigns responsibility for specific wards and intensive care units and provides instructions concerning the type of therapy and respiratory status of seriously ill patients. In addition, the supervisor provides instructions on new or revised hospital policies, work procedures, and respiratory equipment and techniques.

The respiratory therapist independently carries out respiratory duties for the assigned wards and units. The therapist is responsible for selecting and adapting equipment and techniques to individual patients in order to comply with the physician's instructions. The therapist is expected to resolve problems with equipment failure and make substitutions for equipment when necessary. Situations not covered by instructions or standard procedures (i.e., sudden or unexpected changes in the patient's condition) are reported to the supervisor and medical staff.

The supervisor reviews work performed on the wards through occasional spot checks to insure compliance with established policies and procedures. Work performed in the intensive care units is reviewed more frequently to insure technical accuracy and compliance with physician's instructions. The supervisor reviews the overall quality of work by assessing comments received from physicians, nurses, and others with whom the therapist has contact.

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Factor 3, Guidelines—Level 3-2—125 Points

Guidelines include manuals containing descriptions of standard respiratory therapy procedures and instructions for the general use, operation, maintenance, and calibration of equipment. These guidelines are supplemented by written and oral instructions from physicians regarding prescribed treatment. Occasionally, the respiratory therapist will consult current literature in the field for use as additional guidance in rendering treatment or recommending an alternative direction in therapy to the physician.

The respiratory therapist uses judgment in identifying and selecting the most appropriate procedures, equipment, and techniques for application to specific cases. Situations requiring significant deviations from the guidelines are referred to the supervisor or physician in charge of the patient.

Factor 4, Complexity—Level 4-3—150 Points

The work involves the performance of a wide variety of respiratory therapy procedures ranging from the administration of routine oxygen therapy to providing continuous ventilatory care. The work requires setting up, maintaining, and calibrating complex equipment such as mechanical ventilators, mass spectrometers, and respiratory monitoring devices.

The therapist must carefully check, analyze, and interpret numerous facts and data relevant to the patient's condition before selecting and administering the proper treatment. The work is carried out with precision and discretion. Adjustments to machines and techniques are made based on patient responses to therapy. For example, frequent changes to the mechanical ventilator are usually necessary when a patient's blood gas studies are abnormal.

The method of respiratory care, including the types of equipment, techniques, and procedures used, differs with each patient. The treatment is usually made longer and more complex due to the serious illness and physical incapacity of the patient.

Factor 5, Scope and Effect—Level 5-2—75 Points

The purpose of the work is to provide respiratory care to patients on wards and intensive care units using the full range of respiratory equipment.

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The work facilitates the treatment rendered by physicians and nurses and contributes to the recovery of patients.

Factor 6, Personal Contacts—Level 6-2—25 Points

Personal contacts include patients and their families, other respiratory therapists, nurses, physicians, and medical laboratory personnel.

Factor 7, Purpose of Contacts—Level 7-2—50 Points

Contacts with patients and their families are for explaining the operation and use of respiratory equipment including treatment procedures and providing reassurance and comfort. Many of the patients are acutely ill and under considerable stress requiring the therapist to be tactful in establishing and maintaining communication. Contacts with physicians, nurses, and other medical personnel are to resolve complications in patient care and problems with equipment, treatment results, and patient workload.

Factor 8, Physical Demands—Level 8-2—20 Points

The work requires standing and walking for prolonged periods of time. The therapist must frequently bend, reach, stoop, and stretch to set up and take apart respiratory equipment, position patients, and push/pull moderately heavy objects such as ventilator equipment. The work requires above average dexterity and agility to perform intricate respiratory therapy procedures in confined areas of the intensive care units.

Factor 9, Work Environment—Level 9-2—20 Points

Work is performed in various intensive care units and wards of the hospital. The respiratory therapist frequently works with patients who have severe respiratory disorders. There is recurring exposure to contagious diseases, odors, and flammable gases. The therapist is required to wear protective clothing such as gloves and a mask to prevent diseases and the spread of infection, particularly while suctioning patients and coming into contact with oral secretions.

TOTAL POINTS — 1340

OPM Benchmark Description

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GS-651	07	01

RESPIRATORY THERAPIST, GS-7

Duties

Serves as a respiratory therapist in an intensive care unit with responsibility for independently administering complex respiratory therapy treatment to critically ill patients.

— Sets up and monitors a variety of complex respiratory equipment such as volume ventilators for critical care patients. On the basis of patient assessment and analysis of blood gas data, independently makes adjustments to ventilator settings in order to change the patient's ventilator status. Applies advanced ventilator techniques such as positive end expiratory pressure (PEEP), intermittent mandatory ventilator (IMV), and continuous positive airway pressure (CPAP). Develops plan for weaning patients from ventilators. Monitors patients closely to avoid incidents and to alter the plan as necessary.

— Initially and continually assesses the cardiopulmonary condition of assigned patients using data acquired through physical examination and respiratory monitoring and diagnostic equipment. Determines the effectiveness and/or need for change in the therapy being administered. Monitors and interprets values such as pulmonary artery pressures, pulmonary capillary wedge pressures, mixed venous oxygen content, and cardiac output for the purpose of reporting patient status and making recommendations to physicians regarding treatment.

— Performs airway and tube care on intensive care patients including cleaning and securing the tracheostomy and endotracheal tube and site, changing endotracheal and tracheostomy tubes as needed, monitoring tube cuff pressure and inspecting equipment and patient to insure proper functioning of the ventilator.

— During emergency situations, independently inserts artificial airways into patient's trachea to provide controlled breathing. In cases of cardiac arrest, initiates artificial ventilation using either mouth-to-mouth techniques or manual ventilation bag to restore patient's heartbeat and maintain ventilation. During transport of patients within or outside the hospital, maintains

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ventilation, monitors vital signs, and performs cardiopulmonary resuscitation when necessary.

— Draws arterial, venous and mixed venous blood samples from patients through arterial blood punctures or from Swan-Ganz and arterial catheters. Uses various equipment such as blood gas analyzers, co-oximeter, oxygen analyzers, oncometers and osmometers to analyze blood samples and identify abnormalities. Recommends changes in treatment to the physician based on results of blood studies.

— Provides inservice training to other respiratory therapists and nursing personnel relative to the types of treatments given, various types of medications used, and the set up and operation of respiratory equipment including the necessary cleaning and safety precautions. Presents demonstrations and subsequently observes personnel during performance to correct faulty techniques and answer questions.

— Calibrates complex respiratory equipment such as volume ventilators, co-oximeters and mass spectrometers, to assure accurate performance. Identifies and corrects mechanical malfunction of equipment used in the respiratory therapy service. Performs emergency repair of ventilators used in the intensive care unit.

— Records treatment, findings, and progress pertinent to patient care.

Factor 1, Knowledge Required by the Position—Level 1-5—750 Points

Knowledge of a wide variety of respiratory therapy procedures and techniques including the functioning characteristics of complex respiratory equipment, in order to administer assisted and controlled ventilation to patients with tracheostomies and other complex medical problems, perform endotracheal intubation in emergency situations, perform artificial airway care and maintenance, conduct diagnostic respiratory tests involving respiratory failure, calibrate complex respiratory equipment, and instruct others in the performance of respiratory therapy procedures and techniques.

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Knowledge of anatomy and physiology including an indepth understanding of the structure and function of the lungs and bronchi as related to gas exchange and ventilation, in order to administer special ventilatory techniques such as positive end expiratory pressure and intermittent mandatory ventilatin; interpret the results of blood gas studies and make adjustments in ventilator settings; insert and remove endotracheal tubes; and assess patients' respiratory status and evaluate the effectiveness of therapy.

Knowledge of respiratory pharmacology including an understanding of the various classes of respiratory drugs and their uses, ability to prepare dosages and concentrations and select proper methods of administration, and skill in identifying complications and interactions of drugs, in order to determine the effectiveness of the therapy being delivered to patients and to make recommendations to physicians regarding changes or alternatives to treatment.

Factor 2, Supervisory Controls—Level 2-3—275 Points

The supervisor assigns the therapist to one or more intensive care units with little or no instructions regarding the technical work that is to be accomplished. The supervisor is generally available for making decisions in unusual situations which do not have clear precedents or in cases when it is necessary for the therapist to have supervisory support for the recommendations made to the physician in charge of the patient.

The therapist is responsible for independently carrying out and following up on the respiratory care administered to each patient. The therapist actively participates with the physicians and nurses in planning the treatment. The medical personnel rely greatly upon the therapist's knowledge of the capabilities and limitations of the respirtory equipment and the therapist's expertise in performing complex respiratory therapy procedures. The therapist independently makes recommendations to the physician regarding alternatives or modifications to treatment.

The supervisor reviews the work for the results achieved and for conformance to hospital policies and requirements.

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Factor 3, Guidelines—Level 3-2—125 Points

Guidelines include manuals describing standard respiratory therapy procedures; equipment manuals containing instructions for the use, maintenance, and calibration of medical equipment; and hospital policies governing the performance of various emergency procedures such as inserting artificial airways into patient's trachea and independently adjusting ventilator settings. Occasionally, the respiratory therapist will consult current literature in the field for use as additional guidance in administering treatment or making recommendations for alternative treatment to the physician.

The respiratory therapist uses judgment in identifying and selecting the most appropriate procedures, equipment, and techniques for application to specific cases. The therapist must use judgment to determine what procedures and equipment are necessary during situations of cardiac arrest or respiratory failure. Situations requiring significant deviations from hospital policies and other established guidelines are referred to the supervisor or physician in charge of the patient.

Factor 4, Complexity—Level 4-3—150 Points

The work invoves the independent performance of a variety of complex and exacting respiratory therapy procedures such as: setting up, monitoring, and calibrating mechanical ventilators; inserting artificial airways into patient's trachea; adjusting ventilator settings to bring about a change in the patient's respiratory status; and applying various techniques to decrease patients' dependence on ventilators.

Decisions regarding what needs to be done are based on a recurring need for the therapist to carefully and accurately assess various aspects (e.g., blood gases, pulses, respirations, breath sounds, pulmonary artery pressures, cardiac output) affecting the individual's respiratory status and overall medical condition. The therapist must quickly know what action to take to control or compensate for adverse reactions. For example, having observed a sudden change in a ventilated patient's condition, the therapist adjusts ventilator settings (based on blood gas analysis, etc.) to stabilize the patient's breathing.

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The method of respiratory care, including the types of equipment, techniques, and procedures used, differs with each patient. The therapist identifies and analyzes factors related to equipment operation and patient responses to discern their interrelationship. The urgent nature of the work requires precision in timing and coordination of action with others while making very precise observations or adjustments in response to changes in the patient's condition.

Factor 5, Scope and Effect—Level 5-3—150 Points

The purpose of the work is to provide detailed respiratory care to critically ill patients.

Independent performance of duties such as making adjustment to ventilator settings based on interpretation of blood gas data and inserting artificial airways into patient's trachea during emergency situations has an immediate and direct affect on the condition and recovery of the patient.

Factory 6, Personal Contacts—Level 6-2—25 Points

Personal contacts are with patients and their families, other respiratory therapists, physicians, and nurses in the intensive care units.

Factor 7, Purpose of Contacts—Level 7-2—50 Points

Contacts with patients and their families are for explaining the operation and use of respiratory equipment including treatment procedures and providing reassurance and comfort. Generally, the patients are acutely ill and under considerable stress requiring the therapist to be tactful in establishing and maintaining communication. Contacts with physicians, nurses, and other respiratory therapists are for resolving complications in patient care; coordinating action during emergency situations; tube changes and transports; resolving problems associated with equipment failure; and providing clinical instructions and demonstrations in respiratory therapy procedures and techniques.

Factor 8, Physical Demands—Level 8-2—20 Points

The work requires standing and walking for prolonged periods of time. The therapist must frequently bend, reach, stoop, and stretch

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to set up and take apart respiratory equipment, position patients, push/pull moderately heavy objects such as mechanical ventilators. The work requires above average dexterity and agility to perform intricate respiratory therapy procedures in confined areas of the intensive care unit.

Factor 9, Work Environment—Level 9-2—20 Points

The respiratory therapist regularly works in an intensive care unit with patients who have severe respiratory and medical disorders. There is recurring exposure to contagious diseases, odors, and hazardous gases. The therapist is frequently required to wear protective clothing such as gloves and a mask to prevent diseases and the spread of infection, particularly while suctioning patients and coming into contact with oral secretions.

TOTAL POINTS — 1565

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